

Application No.: 10/538,522
Amendment dated: July 24, 2006
Reply to Office Action of February 22, 2006
Attorney Docket No.: 21295.0106US1 (E0664US)

This listing of claims will replace all prior versions and listings of claims in this application:

b.) Listing of Claims

1. (Currently Amended) A ~~R~~eflected-light microscope comprising:

a light source serving to generate an illumination light beam that can be directed through a lens ~~that exhibits a pupil lens on a pupil plane;~~ along an illumination beam path and onto a sample, the lens having a pupil plane; ~~and~~

an imaging optics disposed along the illumination beam path and having a focal plane which ~~that generates an optically corresponds corresponding plane~~ to the pupil plane by being a Fourier plane of the pupil plane of the lens; ~~and~~

~~in which case~~ at least one attenuation element disposed in the focal plane of the imaging optics along the illumination beam path ~~that acts in an essentially uniform manner over the~~ an entire cross-section of the illumination light beam. ~~can be introduced into the illumination beam path on the optically corresponding plane.~~

2. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 1, wherein ~~the~~ at least one attenuation element ~~exhibits~~ comprises a grate structure or a sieve structure or a pinhole pattern.

3. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 1, wherein ~~the~~ at least one attenuation element ~~exhibits~~ is a color filter.

4. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 1, wherein at least one attenuation element ~~exhibits~~ is a diffusion disk.

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5. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 1 ~~{{4}}~~, wherein at least one attenuation element is produced by lithography.

6. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 1, wherein at least one attenuation element is arranged in a storage mechanism.

7. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 6, wherein the storage mechanism is a turret or a push slide or a rotatable disk.

8. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 6, wherein the storage mechanism holds several attenuation elements that exhibit different degrees of attenuation.

9. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 6, wherein the storage mechanism ~~exhibits~~ has a neutral position that permits the illumination light beam to pass through without being attenuated ~~unaffected~~.

10. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 6, wherein the storage mechanism ~~exhibits~~ has a blocking position that ~~interrupts~~ blocks the illumination beam path.

11. (Currently Amended) The ~~R~~ reflected-light microscope according to claim 6, ~~wherein~~ further comprising a drive mechanism ~~is provided~~ that controls the storage mechanism.

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12. (Currently Amended) The R reflected-light microscope according to claim 11, wherein the drive mechanism comprises a stepping motor.

13. (Currently Amended) The R reflected-light microscope according to claim 11, wherein further comprising a control mechanism ~~is provided~~ that controls the drive mechanism.

14. (Currently Amended) The R reflected-light microscope according to claim 1, wherein the illumination light beam is automatically attenuated or blocked during lens changes.

15. (Currently Amended) The R reflected-light microscope according to claim 1, wherein further comprising at least one exchangeable optical element ~~is arranged disposed~~ in the illumination beam path, ~~in which case~~ wherein the illumination light beam is automatically attenuated or blocked while the optical element is being exchanged.

16. (Currently Amended) The R reflected-light microscope according to claim 1, wherein the reflected-light microscope is a fluorescence microscope.

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c.) Remarks

Paragraphs [0010], [0012], and [0023] of the specification were amended to correct translation imperfections. No new matter has been introduced.

Claims 1-16 are pending in this application. Claims 1-16 are rejected. Claim 5 is objected to. Claims 1-16 have been amended in various particulars as indicated hereinabove.

Turning now to the merits, Claim 5 was objected to because of an informality. Claim 5 has been rewritten to overcome that informality.

Claim 1 and its dependent Claims 2-16 were rejected over 35 U.S.C. 112, second paragraph. Applicants respectfully point out that there the language of these claims as previously presented contained translation imperfections, which has been corrected by the current amendment. The language of Claim 1 should have been directed to the focal plane 7 of imaging optics 27, which, in turn, is a Fourier plane of the pupil plane of lens 17 (please refer to Fig. 1 and the corresponding description in paragraphs [0010], [0012] and [0023] of the specification, the translation of which has also been corrected). Applicants believe that Claims 1-16 are now in compliance with the requirements of 35 U.S.C. 112. Withdrawal of this rejection is respectfully requested.

Claims 1, 3, 6-9, 11, 13 and 16 were rejected under 35 U.S.C. 102(b) as being disclosed by Yamaguchi et al. (US Patent No. 6,636,353). This rejection is respectfully traversed for the following reasons.

It is well established that a claim is anticipated under 35 U.S.C. §102, only if each and every element of the claim is found in a single prior art reference.¹ Moreover, to anticipate a claim under 35 U.S.C. §102, a single source must contain each and every element of the claim "arranged as in the claim."^{2, 3} Missing elements may not be

¹ *Veregal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631, 2USPQ2d 1051, 1053 (Fed. Cir. 1987).
² *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

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supplied by the knowledge of one skilled in the art or the disclosure of another reference.⁴ If each and every element of a claim is not found in a single reference, there can be no anticipation.

Yamaguchi discloses an incident light device with a filter wheel 16 (Col. 4, starting at line 59). The filter wheel 16 is placed between lens 15 and aperture stop 17. There is no disclosure in Yamaguchi of the pupil plane of the lens through which an illumination light beam impinges onto the sample, and of an optically conjugated plane relative to that pupil plane. The optically conjugated plane in Claim 1 is a Fourier plane of the pupil plane of the lens. As claimed in amended Claim 1, that Fourier plane corresponds to a focal plane of the imaging optics of the reflected light microscope of the present invention. As claimed in Claim 1 at least one attenuation element is disposed in the focal (optically conjugated) plane. Since no disclosure of such claim elements could be found in Yamaguchi, Applicants respectfully assert that Claim 1 is in compliance with the patentability requirements of 35 U.S.C. 102(b). Therefore, this rejection should be withdrawn and Claim 1 should be allowed.

Claims 2-16 depend off now allowable Claim 1 and are therefore allowable. Allowance of Claims 2-16 is hereby respectfully requested.

Claims 2 and 5 were rejected under 35 U.S.C. 103(a) over Yamaguchi et al. (US Patent No. 6,636,353) in view of Ebbesen et al. (US Patent Number 6,052,238). This rejection is respectfully traversed for the following reasons.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.⁵ The cited publications

³ *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q. 2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).

⁴ *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

⁵ *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

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should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.⁶

Applicants repeat the arguments presented above with regard to Claim 1. It is asserted that the combination of Yamaguchi and Ebbesen does not provide the disclosure of all claim elements of Claims 2 and 5. In particular, Ebbesen discloses a near field optical microscope in which a perforated foil is placed onto the sample. No disclosure of the pupil plane of a lens and its optically conjugated plane corresponding to the imaging optics of the reflected light microscope, in which at least one attenuation element is disposed, was found in Ebbesen. Therefore, the combination of Yamaguchi and Ebbesen does not disclose all elements of the invention as claimed in Claims 2 and 5. Therefore, Claims 2 and 5 are in compliance with the requirements of 35 U.S.C. 103(a) and are allowable. Withdrawal of this rejection and allowance of Claims 2 and 5 are respectfully requested.

Claim 4 was rejected under 35 U.S.C. 103(a) over Yamaguchi in view of Bourdelais et al. (US Patent No. 2004/0027672). This rejection is respectfully traversed for the following reasons. Bourdelais discloses a filter, but no microscope with the lens and imaging system, determining the Fourier plane relationship between the pupil plane of the lens and the focal plane of the imaging of the system for placing at least one attenuating element in the focal plane. Therefore, the combination of Yamaguchi and Bourdelais does not disclose all elements of the invention as claimed in Claim 4. Therefore, Claim 4 is in compliance with the requirements of 35 U.S.C. 103(a) and is allowable. Withdrawal of this rejection and allowance of Claim 4 is respectfully requested.

Claim 10 was rejected under 35 U.S.C. 103(a) over Yamaguchi in view of Amann et al. (US Patent No. 6,563,113). This rejection is respectfully traversed for the following reasons. Amann discloses a fluorescence device with an excitation filter and a blocking

⁶ *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);

Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996);